3. A conversion layer according to claim 1 [~~or 2~~], characterised in that it may contain, for further enhanced corrosion protection,

additional components selected from the group consisting of: silicate, cerium, aluminum and borate;

additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr; Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and

anions, in particular halide ions, in particular chloride ions; sulfurous ions, in particular sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and

polymers, in particular organic polymers, corrosion inhibitors; silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycin; siccatives, in particular cobalt siccatives; dispersing agents; and

mixtures thereof.

4. A conversion layer according to [~~any one of~~] claim[~~s~~] 1 [~~to 3~~], characterised in that it is a basis for further inorganic and/or organic layers.

5. A conversion layer according to [~~any one of~~] claim[~~s~~] 1 [~~to 4~~], characterised in that it contains dyes or color pigments for modification of the inherent color thereof.

6. A conversion layer according to [~~any one of~~] claim[~~s~~] 1 [~~to 5~~], characterised in that its layer thickness is approx. 100 nm.

9. A method according to ~~any one of~~ claim~~s~~ 7 ~~or 8~~, characterised in that the ligands of the chromium(III) complex are selected from the group consisting of:

chelate ligands, such as dicarboxylic acids, tricarboxylic acids, hydroxycarboxylic acids, in particular oxalic, malonic, succinic, glutaric, adipic, pimelic, suberic, azelaic, sebacic acid; and

furthermore, maleic acid, phthalic acid, terephthalic acid, tartaric acid, citric acid, malic acid, ascorbic acid; and

further chelate ligands such as acetylacetone, urea, urea derivatives, and

further complex ligands wherein the complexing functional group contains nitrogen, phosphorus or sulfur ($-NR_2$, $-PR_2$, wherein R independently is an organic, in particular aliphatic radical and/or H, and/or -SR, wherein R is an organic, in particular aliphatic radical or H); phosphinates and phosphinate derivatives; as well as

suitable mixtures thereof, among each other as well as in mixed complexes with inorganic anions and H_2O and/or

the method is performed repeatedly on the surface to be passivated.

12. A concentrate according to ~~any one of~~ claim~~s~~ 10 ~~or 11~~, characterised in that the concentrate is present in solid or liquid form.

13. A concentrate according to ~~any one of~~ claim~~s~~ 10 ~~to 12~~ characterised in that it contains further additives selected from the group consisting of: sealers, dewatering fluids; and

additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr; Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and

anions, in particular halide ions, in particular chloride ions; sulfurous ions, in particuiar sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and

polymers, in particular organic polymers, corrosion inhibitors: silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycin; siccatives, in particular cobalt siccatives; dispersing agents; as well as

mixtures thereof.

16. A passivation bath according to claim 14~~or 15~~, characterised in that it has a pH between approx. 1.5 and 3.

17. A passivation bath according to ~~any one of~~ claim~~s~~ 14 ~~to 16~~, characterised in that it contains approx. 20 g/l chromium(III) and has a pH of approx. 2 to 2.5.

18. A passivation bath according to ~~any one of~~ claim~~s~~ 14 ~~to 17~~, characterised in that it contains further additives in particular selected from the group consisting of sealers, dewatering fluids; and

additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr; Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and

anions, in particular halide ions, in particular chloride ions; sulfurous ions, in particular sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and

polymers, corrosion inhibitors; silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycin; siccatives, in particular cobalt siccative; dispersing agents; as well as

mixtures thereof.

19. A passivation bath according to ~~any one of~~ claims 14 ~~to 18~~, characterised in that it has a bath temperature of approx. 20 to 100°C, preferably 20 to 80°C, in a preferred manner 30 to 60°C, in a particularly preferred manner 40 to 60°C.

20. A method for passivating surfaces of zinc or zinc alloys, in particular ones with iron,

characterised in that

the objects to be treated are immersed in a passivation bath according to ~~any one of~~ claims 14 ~~to 19~~.

22. A method according to ~~any one of~~ claims 20 ~~or 21~~, characterised in that it is an elevated-temperature chromate coating method with rinsing water recycling over at least 2 cascaded rinsing stages.

24. A passive layer obtainable by a method according to ~~at least one of~~ claims 20 ~~to 23~~.

26. A passive layer according to claim 24 ~~or 25~~, characterised in that it presents a greenish, red-green iridescent color for zinc.

27. A passive layer according to ~~any one of~~ claim~~s~~ 24 ~~to 26~~, characterised in that its layer thickness is approx. 100 nm.

28. A conversion layer obtainable by a method according to ~~at least one of~~ claim~~s~~ 7 ~~to 9~~.

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